

REMARKS

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached Appendix is captioned “**Version with markings to show changes made.**”

As a preliminary matter, please consider the claim amendments and remarks of this Supplemental Amendment in addition to those amendments and remarks of original Amendment B (filed July 9, 2001), except where the arguments in this Supplemental Amendment obviously supercede the original amendment (such as with regard to Claim 5).

Claims 1 and 3-7 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,990,997 to Nishida. Applicant respectfully traverses this rejection.

With regard to Claim 1, please consider the arguments made on pages 5-6 of original Amendment B. With regard to Claim 5, as currently amended, please consider the following new arguments.

Claim 5 of the present application recites “a ground layer containing oxygen at a high concentration in the lower part thereof and at a low concentration in the upper part thereof.” One example of an embodiment including this feature is shown in Applicant’s Figure 12B, which includes a ground layer 20 with a lower part 17a of high oxygen concentration and an upper part 17b of low oxygen concentration. In contrast, in the device of Nishida, such as that shown in Figure 4, the lower part 15 and the upper part 17 of the ground layer both have similar oxygen concentrations. In Nishida, only the interface layer

16' (and not the lower layer 15) has an increased oxygen concentration. Accordingly, as all of the features defined in independent Claim 5 of the present application are not disclosed in the Nishida reference, Applicant respectfully requests the withdrawal of this § 102(b) rejection of independent Claim 5 and associated dependent Claims 6 and 7.

Additionally, the purpose of the two-layer ground layer structure of the present invention is to provide an upper layer that promotes growth of the wiring material while still maintaining good boundary properties. On the other hand, the purpose of Nishida is merely to maintain good boundary properties. Accordingly, since the purposes behind the present invention differ from the purposes behind Nishida, it would not have been obvious to have modified the upper and lower layers of Nishida so that the lower layer includes a high oxygen concentration and the upper layer includes a low oxygen concentration. Moreover, the present invention is believed to be more effective in preventing diffusion than the device of Nishida because the present invention includes a high oxygen concentration lower layer that is of a much greater thickness than the high oxygen interface of Nishida.

For all of the above reasons, Applicant requests reconsideration and allowance of the claimed invention. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claims 1 and 5 have been amended as follows:

1. (Twice Amended) An embedded electroconductive layer comprising:

any one of an opening part or a depressed part formed in an insulating film on a substrate;

a barrier layer covering said opening part or said depressed part;

a metal growth promoting layer on said barrier layer, said metal growth promoting layer being made of a material different from that of said barrier layer; and

an electroconductive layer embedded in said opening part or said depressed part via said barrier layer and said metal growth promoting layer.

5. (Twice Amended) An embedded electroconductive layer comprising:

any one of an opening part or a depressed part formed in an insulating layer on a substrate;

a ground layer containing oxygen at a high concentration in the lower part thereof and at a low concentration in the upper part thereof [due to removal of oxygen from said upper part], and said ground layer covering the surface of said insulating film in said opening part or said depressed part; and

an electroconductive layer embedded in said opening part or said depressed part via said ground layer.